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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,612	06/07/2006	Etienne Clymans	5100-000028/US	9161
30593 7590 06/30/2008 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195				
EXAMINER NGUYEN, MAI T				
ART UNIT 3671		PAPER NUMBER		
MAIL DATE 06/30/2008		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,612

Applicant(s)

CLYMANS, ETIENNE

Examiner

MAI T. NGUYEN

Art Unit

3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 24, see figs 2B, 2C, 3B, 3C. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 9 and 10 are drawn to a method but does

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not clearly set forth a step since a step should be written in gerund form. **NOTE:**

Claims 9 and 10 will be examined as best understood.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 8 and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Neveling, Sr. (US 2,002,749).

Regarding claim 1, Neveling discloses a device for dislodging and recovering dredging material of varying nature in figs. 1-4, comprising a bearing housing 29, 30d, 31, a drive shaft 24 mounted therein for rotatingly driving with a determined torque a cutter head 15 is mountable on the drive shaft via a hub 35, and a suction pipe 25 which can be connected to a suction mouth 30a which is surrounded by a fixed cutter shield 30c, 30f which fills the space between the rotating support ring 39, 45 on the one side and the suction mouth and the bearing housing on the other, wherein a number of cutter heads 15a, 15b with a different support ring diameter can be mounted via the same hub on the drive shaft, and wherein the support ring diameter is determined by the torque and the nature of the dredging material to be recovered.

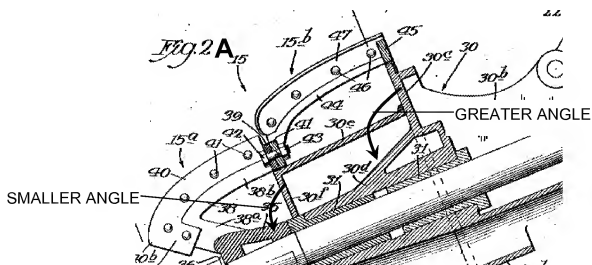
Regarding claim 2, Neveling discloses the device wherein a number of suction mouths 30a, 30e with a different entry section 30g, 30i can be connected to the suction pipe 25, wherein the entry section is determined by the nature of the dredging material to be recovered, see fig. 2 and pg. 2, col. 1, ll. 41-69.

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Regarding claim 3, Neveling discloses the device wherein the dimension of the suction mouth 30a are adapted such that in the operative position the bottom end fits closely between the cutter shield 30c and the support ring 45, see fig. 2.

Regarding claims 4 and 11, Neveling discloses the device wherein the device further comprises a cutter ladder 14, wherein a number of cutter shields can be mounted on the cutter ladder which, during use of different cutter head/suction mouth combinations, allow the cutter shield to be connected on one side of the edge of the bearing housing 30d, 31 and the suction mouth 30a and on the other side to the inner edge of the support ring 45 and the front end of the cutter ladder, see figs. 1 and 2.

Regarding claims 5 and 12-14, Neveling discloses the device wherein the cutter shield 39, 45 takes the form at the bottom of a truncated cone in the direction of the cutter head 15a, 15b, wherein the smaller support ring diameter 39 of the cutter head 15a has an opening of the truncated cone having a greater angle than the angle of the opening of the greater support ring diameter 45 of the cutter head 15b, see following fig. 2A.



Regarding claim 8, Neveling discloses the cutter suction dredger for dislodging and recovering dredging material comprising the device of claim 1, see figs. 1-3.

Claim Rejections - 35 USC § 103

5. Claims 6 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neveling in view of Volbeda (US 4,327,507).

Regarding claims 6 and 15-20, Neveling discloses the device having a cutter head but does not disclose having a nozzle for spraying a fluid under high pressure.

Volbeda teaches a similar device having a cutter head and nozzles 6, see fig. 2, for spraying a fluid under high pressure, wherein the pressure is considered high enough to cut soil, see col. 1, ll. 55-62.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the device of Neveling with nozzles as taught by Volbeda in order to pretreat soil being cut for efficient dredging, see Volbeda, col. 1, ll. 31-36.

6. Claims 6 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neveling in view of Huff (US 2,678,203).

Regarding claims 6 and 15-20, Neveling discloses the device but dislodging and recovering dredging material but does not disclose a nozzle.

Huff teaches a similar device for dislodging and recovering material having nozzles 15, 29 for spraying a fluid under high pressure, see figs. 1 and 2, col. 2, ll. 36-41 and col. 3, ll. 34-38.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the device of Neveling with nozzles as taught by Huff in order to provide a more efficient means of cutting solid material, see Huff, col. 2, ll. 8-14.

Regarding claim 7, the combination of Neveling and Huff discloses the drive shaft 24 and the nozzles 15, 29 mounted to the end of shaft 14, 28 but does not disclose the drive shaft being hollow.

Huff teaches shaft 14, 28 being hollow in order to form a channel for the fluid under pressure, see fig. 2.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the drive shaft of the combination of Neveling and Huff being hollow with a channel as taught by Huff in order to reduce the number of parts required for manufacture and to easily provide pressurized fluid to the nozzles.

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neveling alone.

Regarding claims 9 and 10, Neveling discloses the claimed device for dislodging and recovering dredging material but does not disclose a method for its use wherein the diameter of the support ring and the entry section are selected as a function of dredging material to be recovered.

While Neveling does not explicitly disclose the method, it is obvious that one skilled in the art would choose smaller diameters and therefore smaller openings for dredging harder material since it is known that forcing fluid through smaller openings creates higher fluid pressure that would provide better cutting and suction of harder material.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the device of Neveling with the method of selecting support ring diameter and entry section size as a function material hardness because it is known to choose smaller openings to provide high fluid pressure for better cutting and suction of harder materials.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MAI T. NGUYEN whose telephone number is (571)272-7662. The examiner can normally be reached on Monday-Friday 8:00a-5:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on (571) 272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas A Beach/
Primary Examiner, Art Unit 3671

Mtn
6/23/08